



**US Army Corps  
of Engineers®**

Engineer Research and  
Development Center

# Rapid Port Enhancements for the Theater Support Vessel

## Description

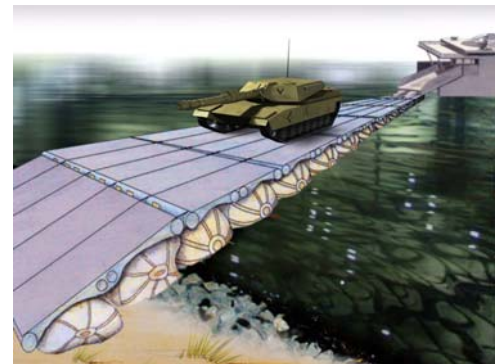
The Rapid Port Enhancement for Force Projection program was recently approved as a Science and Technology Objective (STO) with start date in FY 2003 and end date in FY 2006. The STO presently has two featured development efforts:

- 1) Development of rapidly installed causeways utilizing high-strength fabric technologies; and
- 2) Development of objective tools for evaluating existing port throughput capacity, upgrade potential, and potential power projection throughput.

The objective of the STO is to develop the capability to rapidly repair/construct/upgrade existing medium and small class port facilities that can accommodate intermediate-draft, very-high-speed cargo vessels such as the Theater Support Vessel (TSV), with a goal of providing a four-fold increase in Force Projection throughput over existing JLOTS capabilities.

## Issue

The Future Force (FF) principles of responsiveness, deployability, agility, and sustainability provide the capability to rapidly concentrate combat power in an operational area. This capability is invariably linked to the force's ability to rapidly and reliably project combat forces into any theater in the world. When sealift is the preferred option, austere port conditions worldwide coupled with anti-access activities may limit the effectiveness of high speed, shallow draft vessels like the Theater Support Vessel (TSV). No capability exists presently to remedy these problems to meet future Army needs.



LMCS – Artist's Rendition

## Expected Products

Technology that will be developed from this research will allow rapid upgrades of existing small and medium sized ports. Primary components of this Rapid Port Enhancement package presently include:

- Rapidly emplaced causeways capabilities
- Throughput modeling
- The focus of the STO is on Rapidly Emplaced Causeways to support TSV usage of existing small or degraded ports. Other components of the program will be developed as funding permits, including
- Rapid port breakwater construction/repair
- Rapid pier improvements

## Potential Users

Key potential users for this technology will be military warfighting and logistics planners.

<b>Projected Benefits</b>	In addition to providing military planners with critical planning tools for force projection and logistics management, it is anticipated that successful development and fielding of the LMCS class of water-crossing capability could offer significantly increased maneuver options for future operations, particularly in many coastal areas around the world. The LMCS will provide a TSV transportable and deployable system that provides all the capabilities of existing systems while only requiring 30% of the weight and shipping volume.		
<b>Corps Program</b>	This research program is funded by the Assistant Secretary of the Army (Acquisition, Logistics and Technology) (ASA(ALT))-funded Research and Development Program, as a STO known as Rapid Port Enhancement for the Theater Support Vessel (STO IV.EN.2003.04). Technical Manager – Dr. Donald T. Resio, Program Manager – Dr. Jimmy E. Fowler		
<b>Sponsors</b>	Project Manager, Force Projection; Deployment Process Modernization Office, US Army Transportation Center, Ft Eustis, VA; Maneuver Support Center, Ft Leonard Wood, MO.		
<b>Points of Contact</b>	<b>Program Management:</b> Donald T. Resio      601 634-2018 <i>Donald.T.Resio@erdc.usace.army.mil</i> Jimmy E. Fowler      601 634-3026 <i>Jimmy.E.Fowler@erdc.usace.army.mil</i>  <b>Work Unit Principal Investigators:</b> PE 001 Causeway Technology Development - Primary Structures Donald T. Resio      601 634-2018 <i>Donald.T.Resio@erdc.usace.army.mil</i>  PE 002 (AT 40) Future SPOD Ingress Throughput Modeling Deborah R. Green      601 634-2065 <i>Deborah.R.Green@erdc.usace.army.mil</i>  PE 003 (AT 40) Port Characterization Methodology Donald T. Resio      601 634-2018 <i>Donald.T.Resio@erdc.usace.army.mil</i>  PE 004 (AT 40) Future SPOD Egress Throughput Modeling - Green, John G. John G. Green      601 634-2871 <i>John.G.Green@erdc.usace.army.mil</i>  PE 005 (AT 40) Causeway Superstructure Technology Development – Ray, James A. James C. Ray      601 634-3839 <i>James.C.Ray@erdc.usace.army.mil</i>  Additional information can be found at <a href="http://chl.erdc.usace.army.mil/military">http://chl.erdc.usace.army.mil/military</a> .		
<b>Partners</b>	Development Partners for this program include:  United States Marine Corps Systems Command (MCSC), Combatant Craft Division Geotechnical and Structures Laboratory, ERDC Natick Soldier Center Quantum Engineering Design, Inc. Alion, Inc.		